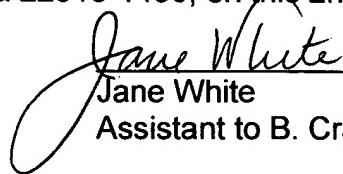


## **CLEANOUT CAP WRENCH**

**by**

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I hereby certify that this application is being filed by Express Mail EV214263475US with the United States Postal Service, in an envelope addressed to: Mail Stop Patent Application, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450, on this 2nd day of January 2004.

  
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## **FIELD OF THE INVENTION**

This invention pertains to tools generally, and is more specifically directed to a wrench that is suitable for manipulating caps or covers for plumbing lines, such as those  
5 that are found on sewer clean outs.

## **BACKGROUND OF INVENTION**

Sewer lines and similar plumbing lines, and other conduits, have access ports or clean out ports. These ports are covered by caps or covers that may be removed for  
10 access to the port or clean out. The caps or covers are most commonly fitted by threaded means into an opening that forms the port or clean out. The caps or covers have a square protrusion that extends upwardly from the cap or cover. The square protrusion provides a means to grip the cap or cover, such as with a pipe wrench or channel locks to remove the cap or cover, and gain access to the port or clean out.

15       The square protrusions of the caps or covers are not of uniform size, and may vary according to the size of the cap or cover for the port or clean out. A wrench having a generally square void therein that will fit over the square protrusion, and which is relatively secure against the square protrusion, can be used to rotate the cap or cover to either remove the cap or cover, or to re-install the cap or cover.

20       Ports or clean outs for sewer lines are in common use in campgrounds, and in residential and commercial buildings. However, caps or covers for the sewer clean outs are of various sizes. The homeowner, camper or recreational vehicle (RV) owner must be able to remove the caps or covers that are present at the sewer system or dumping station systems. The camper or RV owner needs multiple wrenches, which is not

desirable due to the limited space available within the camper or RV, or run the risk that the appropriate size of wrench is not available. Alternatively, the owner must travel with a heavy pipe wrench, which is undesirable for people with small hands. It is very undesirable to be unable to access the sewer system at home, or at a campground or  
5 RV park.

### SUMMARY OF THE INVENTION

The present invention is a wrench having at least four square voids therein which will permit manipulation of the cover or cap of a port or clean out of a sewer system, as  
10 well as permitting manipulation of other fasteners having square protrusions thereon, as is common with plumbing devices. The wrench has four generally square apertures of varying sizes, descending from a relatively large aperture to a relatively small aperture.

### DESCRIPTION OF DRAWINGS

15 **Figure 1** is a perspective view of the wrench of the present invention.

**Figure 2** is a top plan view of a wrench according to the present invention.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing figures, **Figure 2** shows a top plan view of the  
20 preferred embodiment of the present invention. The wrench is a generally flat plane **2**, which is substantially trapezoidal in shape, although each corner of the wrench is rounded to eliminate sharp corners. The first end **4** and an opposite end **6** of the wrench are generally parallel to each other, while the opposite sides **8, 10** taper in the

same direction, and preferably linearly, about a centerline of the longitudinal axis of the generally trapezoidal shape. The resulting generally flat plane has a relatively wide end which tapers to a relatively narrow end. At least four generally square apertures are formed in the flat plane. The largest square aperture **12** is formed near the largest end  
5 of the generally flat plane, and the smallest square aperture **14** is formed near the opposite, and smaller in width, end of the plane. Of the two remaining generally square apertures, the larger square aperture **16** is adjacent to the largest square aperture, and the smaller square aperture **18** is adjacent to the smallest square aperture. Each aperture is substantially square, so as to engage the substantially square protrusions  
10 from caps or covers of sewer clean outs and the like, so that the square protrusion can be accepted within the appropriate square aperture. The square apertures will therefore have sides of substantially the same length, although features such as rounded corners for the apertures may be employed, as long as the corners are rounded in a manner which allows the square protrusion to be accepted within the apertures.

15       The wrench is preferred to be formed in a generally flat plane along its entire length, as is shown in **Figure 1**, for ease of manufacture and for ease of storage. The device may be manufactured by stamping the wrench from sheets of metal, such as a sheet of aluminum. The resulting flat plane may be easily stored in a toolbox, camper, or RV, when space is at a premium.

20       The apertures are formed to allow sufficient material between the point of the aperture **20** that is closest to the edge of the wrench. While this minimum dimension will vary according to the material that is used to form the wrench, and the strength of the material, if the wrench is formed by stamping the wrench from 1/8 thick aluminum,

the minimum distance between the aperture and the edge of the wrench should be about 3/8 inch, and is preferred to be about 7/16 inch or more.

Likewise, while the length and width of the wrench will depend upon the sizes of the apertures to be incorporated. If four generally square apertures having sides of 1 5/8 inches, 1 1/4 inches, 1 5/8 inches, and 2 inches in length are formed, the wrench could have a length of nine (9) to twelve (12) inches, and a width of about 3 1/2 inches tapering down to about 1 3/4 inches. The dimension between the first end of the wrench to the closest side of the largest aperture may be from about 1 3/8 inch to 1 3/4 inches, and the length from the opposite end of the wrench to the closest side of the smallest aperture may be from about 7/8 inch to about 1 1/4 inch. The distance between apertures are preferred to be 1/2 inch when the wrench is formed from 1/8 inch thick aluminum.

The wrench may be formed of any material of sufficient strength, but will typically be stamped from metal, plastic, PLEXIGLAS, or LEXAN. An appropriate metal from which to stamp the wrench, for reasons of weight, is aluminum. If aluminum is used, the wrench should have a thickness from about 1/8 inch to 3/16 inch to provide sufficient strength.

In use, an aperture of appropriate size is selected from the four apertures, and engaged over the square protrusion of the cover, preferably until the wrench is substantially flush against the cover, with the square protrusion extending through the appropriate aperture. The wrench is then rotated appropriately to either remove, or re-install, the cover.